Letter of Intent between the United States Environmental Protection Agency and The Japanese Ministry of International Trade and Industry on Coordination of Energy-Efficient Office Equipment Programs

I. INTRODUCTION

This document outlines a voluntary non-binding plan of action between two different government entities. The goal of this plan is to institute coordination between two separate programs for energy-efficient office equipment (i.e., computers, monitors, printers, fax machines, and copiers) so that maximum energy savings and environmental benefits are achieved.

A. Definitions of Terms

1. Parties. The following entities will be considered the "parties" for purposes of this document: The US Environmental Protection Agency/Office of Air and Radiation ("EPA") and the Japanese Ministry of International Trade and Industry/Agency of Natural Resources and Energy ("MITI").

2. Specifications. The Specifications are energy-efficiency targets for computers, monitors, printers, fax machines, and copiers. These Specifications serve as the basis for the individual office equipment programs of each party. The Specifications are included as Attachment A of this document.

3. ENERGY STAR[SM] Logo. The ENERGY STAR[SM] logo is a mark, originally developed by the EPA, that may be used by office equipment manufacturers to designate office equipment products that meet the Specifications. An example of this logo is included as Attachment C.

4. The International Office Equipment Program. The two programs for energy-efficient office equipment, as a collective group, will be referred to as the International Office Equipment Program.

5. Program Participant. A Program Participant is a manufacturer, vendor, or resale agent that sells computer, monitor, printer, fax or copier products under its own brand name, and who has chosen to participate in the International Office Equipment Program. A Program Participant joins the International Office Equipment Program by participating in one of the separate programs offered by one of the two parties.

6. Host Organization. The host organization is the party with which a Program Participant has signed a voluntary memorandum of understanding or registered its products.

B. Principles

1. Both parties consider the main objective of this plan for coordination of energy-efficient office equipment programs to be the maximization of energy savings and environmental benefits by stimulating the supply of and demand for energy-efficient office equipment.

2. Both parties consider it desirable to coordinate and harmonize the two individual programs for energy-efficient office equipment in order to establish consistent targets for manufacturers, thereby maximizing the effect of individual programs on the supply of and demand for such equipment.

3. Both parties consider that the benefits of coordination will be achieved only if both programs use common energy-efficiency specifications.

II. AREAS COVERED UNDER THIS PLAN OF ACTION

A. Establishment of Separate Programs

1. Each party intends to establish and administer its own labeling program for energy-efficient computers, monitors, printers, fax machines, and copiers. It is intended that each program will utilize the Specifications included in this document as Attachment A.

2. Each party intends to bear the expense of its activities under this plan of action. The parties recognize that the ability of each party to carry out the activities under this plan of action is subject to the availability of appropriated funds, personnel, and other resources. In addition, all activities undertaken by EPA under this plan of action shall be subject to the applicable law of the United States of America. All activities undertaken by MITI under this plan of action shall be subject to the applicable law of Japan.

3. Each party intends to establish and administer its own voluntary memorandum of understanding or registration process for interested Program Participants.

4. Each party intends to encourage potential Program Participants in their country to participate in the International Office Equipment Program.

5. The parties intend to enter into voluntary memoranda of understanding, or accept product registrations from, potential Program Participants located in countries other than those they represent.

6. The parties intend to establish common testing protocols for qualification of products.

7. Each party intends to share its program documents (i.e., voluntary memoranda of understanding/registrations) with the other party so that the requirements in both programs may be ascertained to be identical to the Specifications, as defined in Attachment A.

B. Program Implementation

1. The parties intend to begin implementing the International Office Equipment Program on October 1, 1995. It is intended that the coordinated activities outlined under this plan of action will continue for a term of two years. Prior to the end of the two-year term, the parties intend to meet to discuss a continuation of the plan. The plan of action may continue for an additional time period.

2. The parties intend that this plan of action can be terminated at any time, by either party.

3. It is intended that all Program Participants will be allowed to test and self certify their own products. It is also intended that each party may, at its discretion, test or otherwise review products that have been released in its market.

4. Since testing conditions vary slightly for different markets to account for local conditions (See Attachment B), it is intended that Program Participants will test their products according to the conditions specified for the market where the products will be shipped. The parties intend to educate Program Participants about these slight differences.

5. Each party intends to provide resources necessary to adequately implement, administer, and promote its program.

6. Each party intends to educate consumers about the benefits of purchasing office equipment that meets the Specifications, and intends to undertake useful marketing or informational efforts to stimulate market demand. These efforts may include: preparation and distribution of a database of compliant products, preparation and distribution of informational brochures, presentation of speeches, and provision of information to the media.

C. Reciprocity

1. A potential Program Participant may enter the International Office Equipment Program by joining either one of the parties' programs.

2. The parties intend to exchange with each other the names of all participants in their program. The parties intend to update each other whenever new Program Participants are added.

3. Both parties intend to accept a Program Participant's certification that a product meets the Specifications regardless of which program the participant has originally joined.

4. Each party intends to take appropriate actions against Program Participants for whom it is the host organization whenever Program Participants are found to have used the ENERGY STAR[SM] logo with a noncompliant product. If a party believes that a Program Participant which has joined the other party's program is using the ENERGY STAR[SM] logo with a noncompliant product, the discovering party intends to immediatily notify the host organization of the suspected Program Participant.

5. If notified by the other party that one of its Program Participants is applying the ENERGY STAR[SM] logo to products that do not meet the Specification, it is intended that the host organization will attempt to correct the problem. Such efforts might include the following: sending a letter to the Program Participant stating that they are violating the terms of the program, and, if necessary, also removing the Program Participant from the program.

6. The parties intend to meet at least once a year to evaluate the progress of this plan for coordination of energy-efficiency programs for office equipment, and to discuss areas of concern or needs for clarification. These meetings are essential in order to ensure that the individual programs remain consistent and that the reciprocity be maintained.

7. Other government entities may join the International Office Equipment Program if they are willing to follow the principles outlined in this document, and if the parties agree.

D. ENERGY STAR[SM] Logo

1. As long as both programs continue to use the Specifications, it is desirable to utilize a single logo or label for purposes of designating qualified products. It is intended that the International ENERGY STAR[SM] logo proposed by EPA will be used by both parties for this purpose (See Attachment C).

2. The ENERGY STAR[SM] logo is a service mark of the US EPA, and if either party decides to discontinue the International Office Equipment Program, then only EPA will retain the use of the ENERGY STAR[SM] logo.

3. EPA intends to provide a notice to the World Intellectual Property Organization, under the Paris Convention, regarding the international ENERGY STAR[SM] logo.

4. EPA intends to encourage its current Program Participants to begin using the new international ENERGY STAR[SM] logo.

5. It is important to preserve the integrity and meaning of the ENERGY STAR[SM] logo. Therefore, each party intends to oversee and ensure the proper use of the ENERGY STAR[SM] logo in its market.

6. If a product is rated at multiple voltages/frequencies, and sold in multiple markets, then the ENERGY STAR[SM] logo may be displayed in a market only if the product satisfies the

Specifications under the testing conditions for that market (See Attachment B). Each party intends to include this requirement in its program.

E. Program Changes

1. The parties intend to meet in 1995 or 1996 to discuss possible revisions or improvements to the International Office Equipment Program, including expansion to include the European Union. Representatives from private organizations and from manufacturing industries may be invited to discuss specific issues of interest to both parties.

2. The parties intend to work together in the future on any program changes so that there will be continued harmonization. Any proposed changes to the Specifications require the consent of both parties.

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For the U.S. Environmental Protection Agency:

Signature: _____ Date: July 18, 1995

Mary D. Nichols, Assistant Administrator,
Office of Air and Radiation

For the Japanese Ministry of International Trade and Industry:

Signature: _____ Date: September 14, 1995

Tadashi Ezaki, Director-General,
Agency of Natural Resources and Energy

Attachment A

I. Personal Computer & Monitor Specifications

A. Definitions

1. Personal computer: A commercial desk-top, desk-side, or smaller single-user unit manufactured and sold as a fully-operational model. To qualify, the unit must be capable of being powered from a wall outlet, but this does not preclude battery powered units. Exit outlets mounted on the system enclosure for the connection of peripheral equipment which impose no load on the system power supply are not included in the wattage calculation. Fans and other devices necessary for the operation of the unit are included in the wattage calculation. This definition is intended primarily to cover standard personal computers sold for use in businesses or homes. However, the following may also be considered personal computers: workstations, X-terminal controllers, Automatic Teller Machines (ATM's), and PC-based point-of-sale retail terminals.

2. Monitor: A cathode-ray tube (CRT), liquid crystal display (LCD) or other display device and its associated electronics. A monitor may be sold separately or included in the computer casing. This definition is intended primarily to cover standard monitors designed for use with personal computers. However, the following may also be considered a monitor: mainframe terminals (sometimes called "dumb" terminals) terminals with some processing power and designed for use in a client/server environment (sometimes called "smart" terminals), and physically separate display units for ATM's and point-of-sale retail terminals.

3. All-In-One System: This category covers systems where the personal computer and monitor are combined into a single unit. Such systems meet all of the following criteria: the display unit is included in the computer casing; it is not possible to measure the power consumption of the two components separately; and the system is connected to the wall outlet through a single power cable.

B. Product Qualification for the Energy Star Logo

1. Technical Specifications

a. Monitors: An Energy Star monitor shall have the capability to automatically enter a low-power mode of 30 watts or less after a period of user inactivity. Upon resumption of user activity (e.g., movement of the mouse or keyboard activity), the monitor shall automatically return to full operational capability. Monitors that always consume less than 30 W are also assumed to comply. If a special proprietary software other than Display Power Management Signalling ("DPMS") or an industry standard operating system is required to initiate a monitor's low-power mode, the software shall be shipped with the monitor.

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b Computers: An Energy Star computer shall satisfy the following conditions:

i. Power Consumption

A computer shall automatically enter a low-power "sleep" mode of 30 watts or less after a specified period of inactivity. In order to prevent any inconvenience to the user, a computer in the low-power mode shall automatically "wake up" upon resumption of system activity or receipt of external input (e.g., mouse movement, keyboard activity, typing of a password, modem interrupts, etc.). When the system is awakened, the user shall be returned automatically to the same situation that existed prior to activation of the sleep mode, i.e., all files and software packages in use at the time the sleep mode is triggered shall be returned to the screen in the same condition.[1] Computers that always maintain a level of power consumption less than or equal to 30 watts are also assumed to comply.

In order to ensure that the maximum number of users take advantage of the low-power sleep mode, Program Participants shall ship their computers with the power-management feature enabled, and the default time preset for between 15 and 30 minutes. The user shall have the ability to change or disable the time settings.

ii. Operating Systems

The proper activation of a computer's low-power mode is typically contingent upon the installation and use of a particular operating system, e.g., DOS, Windows, OS/2, Unix, System 7. If a computer is shipped from the Program Participant with one or more operating systems pre-installed, the computer shall be capable of entering and fully recovering from the low-power sleep mode while running in those operating systems.[2] If the computer is not shipped with operating system software the manufacturer shall clearly specify which operating systems will render the computer Energy Star compliant. The Program Participant shall include this information in user's manuals and datasheets. Brochures and advertisements shall be worded to avoid misleading interpretations. In addition, if any special software, hardware drivers, or utilities are necessary for the proper activation and recovery of the sleep mode, they must be installed in the computer.

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[1] In cases where a security code or password are required, the PC shall be able to return to its previous condition after the user enters the security code or password.

[2] If a particular product model qualified as Energy Star under these specifications is occasionally sold with an operating system that will not allow proper activation of the sleep mode, then the manufacturer must state this limitation clearly in product literature. For example, if a computer model that is typically shipped with DOS/Windows is occasionally shipped with UNIX then Program Participant should include a statement in the user's manual and datasheets such as "This computer is Energy Star compliant when used with DOS and Windows, but not when used with UNIX." In brochures or advertisements for these types of product models, Program Participants shall avoid statements that would be misleading or incorrect.

iii. Monitor Control

The computer shall include one or more mechanisms through which it can activate the low-power modes of an Energy Star Monitor (e.g., DPMS, special software or utilities, etc.). Program Participant shall clearly specify in product literature the manner in which its computer can control Energy Star monitors, and any special circumstances that must exist in order for monitor power management to be accomplished.

In order to increase the probability that the end user will utilize the monitor's low-power feature, Program Participant shall set the computer's default to activate the monitor's low-power state after between 15 and 30 minutes of user inactivity. Program Participant shall also set default times for successive levels of monitor power reductions, if supported, so that monitors can achieve their lowest power levels. The lowest power level shall be achieved within 70 minutes or less of user inactivity. The user shall have the ability to change or disable the time settings for the monitor control.

This monitor control requirement does not apply to all-in-one systems. However, portable or laptop computers that are marketed and sold as part of a docking system shall have the ability to automatically control the power of an externally-connected monitor.

iv. Network Compatibility

Many computers are purchased for use in a network environment. Therefore, it is preferred that the power management function of an Energy Star computer be designed to ensure that, when used according to Program Participant instructions, it will not be inadvertently disconnected from a network while in the low-power sleep mode. To limit potential problems for users, Program Participant shall attempt to provide general guidelines and information to consumers regarding the effective use of Energy Star computer models on Network environments. For example, a Program Participant might include in product literature statements regarding network environments and network cards that are compatible with the computer's low-power mode. If a specific Energy Star computer model is not designed or intended for use in a network environment, then Program Participant shall clarify this situation in user's manuals and datasheets. Advertisements and brochures should be worded to avoid misleading interpretations.

c. All-In-One Computer-Monitor Combinations

The all-in-one system must automatically enter a low-power sleep mode of no more than 60 watts after a specified period of inactivity. Program Participant shall ship the all-in-one system with the power-management feature enabled, and the default time set for between 15 and 30 minutes. The user shall have the ability to change or disable the time settings. All-in-one systems that always maintain a level of power consumption less than or equal to 60 watts are also assumed to comply. All of the above criteria for computers shall also be satisfied, except for the section on Monitor control.

2. Customer Education

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a. Product Literature.

It is important that consumers understand the power-management feature of their equipment. Accordingly, Program Participant shall provide general information to users regarding the Energy Star features of the personal computer or monitor. This information might include the following: a description of the method for changing the power management settings or default times, a description of the Energy Star Program, and a discussion of the savings associated with using the power-management feature. Program Participant may determine the best manner through which to disseminate this general information to users. Examples of acceptable approaches include: user's manual, on-line tutorial, special brochures included in the shipping box, etc.

For personal computers, Program Participant shall include in product literature information on the subjects of compatible operating systems, monitor control, and network compatibility. Program Participant shall include clear statements addressing these subjects in both the user's manual and on datasheets. Brochures and advertisements shall be worded to avoid misleading interpretations.

For monitors, Program Participant shall include in product literature specific information regarding the system control features or mechanisms that are necessary in order for the monitor to achieve the 30 W target, e.g., Display Power Management Signalling ("DPMS"), Screen blanking software, special proprietary software, etc. This information shall be clearly specified in both user's manuals and datasheets. Brochures and advertisements shall be worded to avoid misleading interpretations.

b. Logo Usage

In order to help educate users and inform them of the energy saving features of their Energy Star computer or monitor, Program Participant shall consider placing the Energy Star logo on all compliant products, as well as on their associated shipping cartons, brochures, data sheets and advertisements.

Attachment A

II. Printer and Fax Machine Specifications

A. Definitions

1. Printer: Imaging equipment manufactured as a standard model that serves as a hard-copy output device and is capable of receiving information from single-user or networked computers. In addition, the unit must be capable of being powered from a wall outlet. This definition is intended to cover products that are advertised and sold as printers.

2. Fax Machine: Imaging equipment manufactured as a standard model that serves as a hard-copy output device whose primary function is sending and receiving information. Plain paper fax machines are covered under these specifications (e.g., ink jet/bubble jet, laser/LED, and thermal transfer). The unit must be capable of being powered from a wall outlet. This definition is intended to cover products that are advertised and sold as fax machines.

3. Combination Printer/Fax Machine: Imaging equipment manufactured as a standard model that serves as both a fully-functional printer and fax machine, as defined above. This definition is intended to cover products that are marketed and sold as a combination printer/fax device.

B. Product Qualification for the Energy Star℠ Logo

1. Technical Specification

Energy Star Program Participant will introduce one or more specific models of printers, fax machines, or combination printer/fax machines that have the capability of entering a low-power state after a period of inactivity or maintain a level of power consumption at or below the level of power specified in Table 1, below. With regard to the products that enter a low power state, Program Participant shall set the product's default to activate the low-power state at no more than the time specified below from the completion of the last print job, or from last job sent or received.

Low-end color printers such as color ink jet printers and color dot matrix printers shall be qualified based on print speed. High end color printers, including color laser printers, thermal wax printers, or color thermal transfer printers, shall meet the 45 W power consumption level in low power state.

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Table 1.

Product Speed in Pages Per Minute (ppm)[3]	Default Time to Low-Power State[4] Printer & Printer/Fax Devices	Default Time to Low-Power State[4] Fax Machines	Average Power Consumption in Low-Power State
0 < ppm ≤ 7	15 minutes	5 minutes	15 W
7 < ppm ≤ 14, and all plotters or large format printers	30 minutes	5 minutes	30 W
ppm > 14, and all high end color printers	60 minutes	15 minutes	45 W

2. Customer Education

a. Product Literature. It is important that consumers understand the power-management feature of their printer, fax, or combination printer/fax machine. Accordingly, Program Participant shall provide general information to users regarding the Energy Star features of the product. This information might include the following: a description of the method for changing the power management settings or default times, a description of the Energy Star Program, and a discussion of the savings associated with using the power-management feature. Program Participant may determine the best manner through which to disseminate this general information to users. Examples of acceptable approaches include: user's manual, special brochures included in the shipping box, etc.

b. Logo Usage. In order to help educate users and inform them of the energy saving features of their Energy Star printer, fax machine, or combination printer/fax, Program Participant shall consider placing the Energy Star℠ logo on all compliant products, as well as on their associated shipping cartons, brochures, data sheets and advertisements.

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[3] For printer and fax models sold in the US, the print speed shall be based on 8.5" x 11" letter-sized paper. For printer and fax models sold in Europe or Japan, the print speed shall be based on A4 paper.

[4] Default times may be changed by the user.

Attachment A

III. Copier Specification

A. Definitions

1. Copier: A commercial reprographic imaging unit whose sole function is the production of duplicates from a graphic hardcopy original. A copier must include a marking system, an imaging system, and a paper handling module. All black and white plain paper copier technologies are covered under this specification, though the intent is to focus on widely-used standard copier equipment such as light lens copiers. The specifications outlined below apply to copiers designed for 8.5" x 11" letter-sized or A4 paper. Large format copiers designed to handle 17" X 22" or A2 paper or larger may be qualified under this program using an adjusted copier speed. This adjustment is outlined in Section C.1., below. Copiers qualified under this specification shall be divided into the following categories:

a. Low Speed Copiers: Copiers with an engine speed for producing multiple images of 20 copies per minute or less. For copier models sold in the US market, this engine speed shall be based on 8.5" x 11" letter-sized paper. For copier models sold in Japan or Europe, this engine speed shall be based on A4 paper.

b. Medium Speed Copiers: Copiers with an engine speed for producing multiple images of greater than 20 and less than or equal to 44 copies per minute. For copier models sold in the US market, this engine speed shall be based on 8.5" x 11" letter-sized paper. For copier models sold in Japan or Europe, this engine speed shall be based on A4 paper.

c. High Speed Copiers: Copiers with an engine speed for producing multiple images of greater than 44 copies per minute. For copier models sold in the US market, this engine speed shall be based on 8.5" x 11" letter-sized paper. For copier models sold in Japan or Europe, this engine speed shall be based on A4 paper.

2. Base Unit: For a given engine speed, the base unit is defined as the most basic version of a copier that is actually sold as a fully operational model. The base unit is typically designed and shipped in a single piece, and does not include any external power-consuming accessories that may be sold separately.

3. Accessories: A piece of additional equipment that is not necessary for the standard operation of the base unit, but that may be added before or after shipping in order to enhance or change copier performance. An accessory may be sold separately under its own model number, or sold with a base unit as part of a copier package or configuration. Examples of accessories include: sorters, large capacity paper feeders, programmable on/off timers, etc. It is assumed that there will be no substantial increase (more than 10 %) in off mode power consumption resulting from the addition of an accessory.

4. Copier Model: A copier model is defined as a base unit and one or more specific accessories that are advertised and sold to consumers under a single model number. When advertised and

sold to consumers without any additional accessories, a base unit is also considered a copier model.

5. Low-Power Mode: The low-power mode is the lowest power state the copier can automatically enter within some period of copier inactivity, without actually turning off. The copier enters this mode within a specified period of time after the last copy was made. For purposes of determining the power consumption in this low-power mode, the Program Participant may choose to measure the lowest of either the energy-saver mode or the standby mode.

6. Energy-Saver Mode: The condition that exists when the machine is not making copies, has previously reached operating conditions but is consuming less power than when the machine is in stand-by mode. When the copier is in this mode, there may be some delay before the copier will be capable of making the next copy.

7. Standby Mode: The condition that exists when the machine is not making copies, has reached operating conditions and is ready to make a copy, but has not yet entered into energy-saver mode. When the copier is in this mode, there will be virtually no delay before the copier is capable of making the next copy.

8 . Auto-off Feature: The auto-off feature is defined as the ability for the copier to automatically shut itself off within a specified period of time after the last copy was made. The copier shall automatically enter its off mode after execution of this feature.

9. Off Mode: The off mode is defined as the condition that exists when the copier is connected to an appropriate electrical source, and has been recently shut off via the auto-off feature[5]. When measuring power in this mode, control equipment for remote servicing may be excluded.

10. Plug-in Mode: The condition that exists when the machine is connected to an appropriate electrical source and is not turned on. To turn the copier on, the user typically needs to manually restart the copier via the on/off switch.

11. Default Times: The time period set by the Program Participant prior to shipping that determines when the copier will enter its various modes, i.e., the low-power mode, the off mode, etc. Both the off mode default times and the low-power mode default times shall be measured from the time the last copy made.

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[5] Section C.1. of this specification contains maximum power consumption targets for the off mode. It is expected that most companies will meet these off-mode power consumption targets by incorporating an auto-off feature in the copier. However, it is possible and allowable for a Program Participant to utilize a low-power mode, rather than an auto-off feature if the low-power mode power consumption is equal to or less than the off-mode power consumption targets contained in this specification.

12. Recovery Time: The amount of time needed to bring the copier from a low-power mode to the standby mode.

13. Automatic Duplex Mode: The mode in which the copier automatically places images on both sides of a copy sheet, by automatically sending both the copy sheet and the graphic original through the copier model. Examples of this are one-sided to two-sided copying, or two-sided to two-sided copying. A copier model is considered to have an automatic duplex mode only if the copier model includes all accessories needed to satisfy the above conditions, i.e., an automatic document feeder and accessories for automatic duplexing capabilities.

B. Commencement and Conclusion of the Two Tiers of the Copier Program

1. The first tier of the program shall conclude on June 30, 1997.

2. The second tier of the program shall commence on July 1, 1997. The criteria for Tier 2 shall apply to copier models that Program Participant begins to ship after June 30, 1997. Tier 1 models may continue to bear the Energy Star logo until the models are phased out of the market. (i.e., the new specifications will not apply retroactively to previously qualified products.) Models that Program Participant begins to ship on or after July 1, 1997 must be qualified under the new specifications outlined in Section C.1, below, though Program Participant may choose, at its discretion, to implement the new terms prior to this date.

C. Product Qualification for the Energy Star Logo

1. Technical specifications

Energy Star Program Participant agrees to introduce one or more specific copier models that meet the specifications outlined in Tables 1 and 2 below.

Table 1. Tier 1 Criteria for the Energy Star Copier Program.

Copier Speed (cpm)	Off Mode (W)	Off Mode Default Time	Automatic Duplex Mode
$0 < cpm \leq 20$	< 5	≤ 30 minutes	No
$20 < cpm \leq 44$	< 40	≤ 60 minutes	Optional
$44 < cpm$	< 40	≤ 90 minutes	Default

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Table 2. Tier 2 Criteria for the Energy Star Copier Program. (Beginning July 1, 1997.)

Copier Speed[6] (cpm)	Low-Power Mode (W)	Recovery Time 30 seconds	Off Mode (W)	Off Mode Default Time	Automatic Duplex Mode
$0 < cpm \leq 20$	None	NA	< 5	≤ 30 minutes	No
$20 < cpm \leq 44$	3.85*cpm +5	Yes	< 10	≤ 60 minutes	Optional
$44 < cpm$	3.85*cpm +5	Recommended	< 15	≤ 90 minutes	Default

For Tier 2, Program Participant shall ship copier models with the default time for the low-power mode set at 15 minutes. Program Participant shall set the default times for the auto-off feature to the levels specified in Tables 1 and 2 above.

For all copier speeds where it's optional that the duplex mode be set as the default, if a model is shipped with automatic duplexing capabilities, then it is recommended that duplexing be set as the default mode. For all copier speeds where it's required that duplex be set as default, Program Participant may provide users with the option to override this default mode for a specific copying job that requires single-sided copies. Once the particular single-sided job is completed, however, the copier model shall return to its default duplex mode.

2. Product Qualification

a. Low Speed Copiers

Any base unit in this copier speed range satisfying the above criteria shall qualify for the program. The Energy Star logo may be applied directly to any qualifying base unit, regardless of whether it is shipped with additional accessories. Any copier model that includes a qualified base unit may be deemed an Energy Star Copier model.

b. Medium Speed Copiers

The Energy Star logo may be applied directly to any qualifying base unit, regardless of whether it is shipped with additional accessories. Any copier model that includes any qualified base unit may be deemed an Energy Star Copier model.

For Tier 2, copiers in this copier speed range shall be able to recover from the low-power mode within 30 seconds or less. Declaration of the actual recovery time shall be placed in product literature (see Section 4.a., below).

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[6] For large format copier models designed to handle primarily A2 or 17" X 22" paper or larger, an adjusted copier speed may be used for the formula. The following adjustment should be made: Adjusted copier speed = 1.18*copier speed (of large format copier models).

c. High Speed Copiers

Only those copier models in this copier speed range with automatic duplexing capabilities may be qualified as an Energy Star Copier. The Program Participant will test and qualify the copier model that has automatic duplexing capabilities (this could be a base unit with built in automatic duplexing capabilities or a base unit with automatic duplexing accessories). The Energy Starlogo may be associated only with copier models that qualify. The Energy Star logo may be placed directly onto any qualified base unit that includes built-in automatic duplexing capabilities. However, for copier models that include a base unit and separate automatic duplexing accessories, the logo shall not be applied directly to the base unit unless the base unit is always sold with the automatic duplexing accessories.

For Tier 2, it is recommended that high speed copier models be able to recover from the low-power mode within 30 seconds or less. Declaration of the recovery time shall be placed in product literature (see Section 4.a, below).

3. Exceptions and Clarifications

After shipping, Program Participant or its designated service representative shall not alter the copier model in any way that will affect the copiers' ability to meet the specifications outlined above. Certain exceptions are allowed in changing the default times, the off mode specifications, and the duplex mode. These exceptions are as follows:

a. Default Times

The Program Participant, designated service representative, or customer may change the default times for either the low-power or auto-off feature, but only up to a Program Participant set maximum of 120 minutes. The combined total for off mode and low-power mode default times shall not exceed 120 minutes.

b. Off Mode Power Consumption.

In some cases, Program Participant may need to ship a copier model with the anti-humidity device disconnected in order to meet off mode power requirements. If this situation leads to sizable inconvenience for a specific customer, Program Participant (or the designated service representative) may connect the anti-humidity device. If Program Participant determines that in a certain geographical area there are chronic reliability problems associated with high humidity levels, Program Participant may contact the Party representing the geographic area of concern and discuss alternative solutions.

c. Automatic Duplex Mode

In an individual case where the duplexing feature is causing a customer sizable inconvenience due to their particular usage patterns, the Program Participant (or the designated service representative) may disable this default mode at the customer's request.

4. Customer Education.

a. Product Literature:

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Program Participant shall provide general information to users regarding the Energy Star features of the copier model. This information might include a description of the Energy Star Program, a discussion of the saving associated with using the power-management features, the benefits of duplex copying and the method for changing the settings or default times. Program Participant may determine the best manner through which to disseminate this general information to users. Examples of acceptable approaches include: user's manual, special brochures included in the shipping box, etc.

In addition, Program Participant shall provide product literature on recommended types of recycled copier paper including the amount of post-consumer content in the paper.[7] Program Participant shall include clear statements addressing the recovery time from the low-power mode in both the user's manual and on datasheets. Brochures and advertisements shall be worded to avoid misleading interpretations.

b. Logo Usage:

To help consumers become familiar with the Energy Star Copier program, the Program Participant shall place the Energy Star logo onto qualified products, where practical.[8] The Program Participant shall also strive to include the Energy Star logo in brochures, manuals, and advertisements, etc. for qualified products.

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[7] The US Government has specified a minimum of 20 % post-consumer content for all copier paper purchased for government use. Program Participant may wish to include information on this or other types of recycled paper.

[8] The Energy Star logo may appear on the front of the copier model, on the control panel, or on the nameplate.

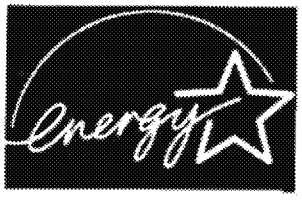
ATTACHMENT B
TESTING CONDITIONS

Market	Paper Size	Voltage / Frequency
United States	8.5" x 11"	115 V RMS +/- 5 V 60 Hz +/- 3Hz
Europe	A4	230 V RMS +/- 10 V 50 Hz +/- 3 Hz
Japan	A4	100 V RMS +/- 5 V 50 Hz +/- 3 Hz and 60 Hz +/- 3 Hz 200 V RMS +/- 10 V 50 Hz +/- 3 Hz and 60 Hz +/- 3 Hz

Program Participants shall perform tests on their products based on the market in which the product will be sold. For example, a Program Participant that is shipping a printer to Europe must determine the print speed based on A4 paper, and then measure the power consumption using the voltage and frequency values specified for the European market. For equipment that is rated at multiple input voltages **and sold in multiple international markets**, the Program Participant must test at all rated voltages if it plans to display the Energy Star[SM] Logo on the product in all markets.

Attachment C

International Energy Star Logo -- Simple Version



International Energy Star Logo -- 4-Color Version